



Jean Piaget, 1896-1980

Comments on Vygotsky's critical remarks

Comments on Vygotsky's critical remarks concerning *The Language and Thought of the Child*, and *Judgment and Reasoning in the Child*, by Jean Piaget

Comments

It is not without sadness that an author discovers, twenty-five years after its publication, the work of a colleague who has died in the meantime, when that work contains so many points of immediate interest to him which should have been discussed personally and in detail. Although my friend A. Luria kept me up to date concerning Vygotsky's sympathetic and yet critical position with respect to my work, I was never able to read his writings or to meet him in person, and in reading his book today, I regret this profoundly, for we could have come to an understanding on a number of points.

Miss E. Hanfmann, who is one of Vygotsky's closest followers, has kindly asked me to comment on the reflections of this distinguished psychologist concerning my early work. I should like to thank her, but also confess embarrassment, for while Vygotsky's book appeared in 1934, those of mine he discusses date back to 1923 and 1924. On thinking over the question of how to carry out such a discussion in retrospect, I have, however, found a solution that is both simple and instructive (at least for me), namely, to try and see whether or not Vygotsky's criticisms seem justified in the light of my later work. The answer is both yes and no: on certain points I find myself more in agreement with Vygotsky than I would have been in 1934, while on other points I believe I now have better arguments for answering him.

We can begin with two separate issues raised by Vygotsky's book: the question of egocentrism in general and the more specific question of egocentric speech. If I have understood him well, Vygotsky's own position And action, I said – egocentrism and pointed out that the unconscious egocentrism of thought to which I referred was quite unrelated to the common meaning of the term, hypertrophy of the consciousness of self. Cognitive egocentrism, as I have tried to make clear, stems from a lack of differentiation between one's own point of view and the other possible ones, and not at all from an individualism that precedes relations with others (as in the conception of Rousseau, which has been occasionally imputed to me, a surprising misapprehension, which Vygotsky to be sure did not share).

Once this point is clarified, it becomes evident that egocentrism thus defined goes way beyond the social egocentrism which we shall take up later, in connection with egocentric speech. Its scope is shown in particular by my research on the child's conception of reality, which uncovered fairly pervasive egocentrism operating at the sensory-motor level. For example, the sensory-motor space consists initially of a plurality of spaces (buccal, tactile-kinesthetic, etc.) centered on one's own body; at about eighteen months, through a shift of perspective (*décentration*) truly comparable to the Copernican revolution, space becomes a single homogeneous container in which all objects are situated, including one's own body.

Let us turn to what most troubles Vygotsky in my conception of egocentrism: its relationship to Bleuler's concept of autism and to Freud's "pleasure principle." On the first point, Vygotsky, who is a specialist on schizophrenia, does not deny, as some of my French critics do, that a certain amount of autism is normal for all people – which my teacher Bleuler also admitted. He finds only that I have overemphasized the resemblances between egocentrism and autism without bringing out the differences sufficiently – and in this he is certainly right. I emphasized the resemblances, whose existence Vygotsky does not deny, because

they seemed to me to throw light on the genesis of symbolic games in children (see *Play, Dreams and Imitation in Childhood*). In them one can often see the “nondirected and autistic thought” which Bleuler speaks of and which I have tried to explain in terms of a predominance of assimilation over accommodation in the child’s early play.

As for the “pleasure principle,” which Freud sees as genetically prior to the “reality principle,” Vygotsky is again right when he reproaches me for having accepted this oversimplified sequence too uncritically. The fact that all behavior is adaptive and that adaptation is always some form of equilibrium (stable or unstable) between assimilation and accommodation, permits us (1) to account for the early manifestation of the pleasure principle by the affective aspect of the frequently predominating assimilation, and (2) to agree with Vygotsky’s point that adaptation to reality goes hand in hand with need and pleasure, because even when assimilation predominates it is always accompanied by some accommodation.

On the other hand, I cannot follow Vygotsky when he assumes that once having separated need and pleasure from their adaptive functions (which I do not believe I ever did, or at least if I did I quickly corrected this error: see *The Origins of Intelligence in Children*), I found myself obliged to conceive of realistic or objective thought as independent of concrete needs, as a kind of pure thought which looks for proof solely for its own satisfaction. On this point, all of my subsequent work on the development of intellectual operations out of action and on the development of logical structures from the co-ordination of actions shows that I do not separate thought from behavior. It took me some time to see, it is true, that the roots of logical operations lie deeper than the linguistic connections, and that my early study of thinking was centered too much on its linguistic aspects. This leads us to the second point.

Egocentric speech

There is no reason to believe that cognitive egocentrism, marked by unconscious preferential focusing, or by a lack of differentiation of viewpoints, has no application to the field of interpersonal relations, in particular those which are expressed in language. To take an example from adult life, every beginning instructor discovers sooner or later that his first lectures were incomprehensible because he was talking to himself, so to say, mindful only of his own point of view. He realizes only gradually and with difficulty that it is not easy to place oneself in the shoes of students who do not yet know what he knows about the subject matter of his course. As a second example we can take the art of discussion, which consists principally in knowing how to place oneself at the point of view of one’s

partner in order to try to convince him on his own ground. Without this capacity, discussion is useless – as indeed it often is, even among psychologists!

It is for this reason that in trying to study the relationships between language and thought from the standpoint of cognitive shifts of centering (*centrations et décentrations*), I have tried to see whether or not there is a special egocentric speech which can be distinguished from co-operative speech. In my first book on language and thought in the child I devoted three chapters to this problem. (I have since regretted publishing this book first, for I would have been better understood had I begun with *The Child's Conception of the World*, which was then in progress.) In the second of these chapters I studied conversations and especially arguments between children in order to bring to light the difficulties which they experience in getting beyond their own points of view. The third dealt with the results of a little experiment concerning children's mutual understanding in attempting causal explanation, which I conducted to verify my observations. To explain these facts, which to me seemed most important, I then presented in the first chapter an inventory of children's spontaneous speech, trying to distinguish the monologues and "collective monologues" from the adaptive communications and cherishing the hope of finding in this way a kind of measure of verbal egocentrism.

But the startling result, which I could not foresee, was that all the adversaries of the notion of egocentrism (and they are legion!) chose for their attacks the first chapter alone, without attaching any significance to the other two and therefore, as I have increasingly come to believe, without understanding the real meaning of the concept. One critic even went so far as to take for a measure of egocentric speech the number of sentences in which the child talks of himself, as if one could not talk of oneself in a way that is not egocentric! In an otherwise excellent essay on language (which appeared in L. Carmichael's *Manual of Child Psychology*) D. McCarthy concluded that the long debates on this subject have been useless, but without giving any explanation of the real meaning and scope of the concept of verbal egocentrism.

Before returning to Vygotsky, I should like to set forth myself what seems to me to remain significant in the positive and negative evidence gathered by my few followers and my many opponents.

1. The measurement of egocentric speech has shown that there are very great environmental and situational variations, so that contrary to my initial hopes we do not possess in these measures a valid gauge of intellectual egocentrism or even of verbal egocentrism.

2. The phenomenon itself, whose relative frequency at different developmental levels we had wanted to test, as well as its decline with age, has never been disputed because it has seldom been understood. When viewed in terms of a distorting centering on one's own action and of subsequent decentering, this phenomenon proved much more significant in the study of actions themselves and of their interiorization in the form of mental operations than in the field of language. It still remains possible, however, that a more systematic study of children's discussions, and especially of behavior directed at verification and proof (and accompanied by speech), may furnish valid metric indices.

This long preamble has seemed necessary to bring out how much I respect Vygotsky's position on the issue of egocentric speech, even though I cannot agree with him on all points. First, Vygotsky did realize that a real problem was involved, and not merely a question of statistics. Second, he himself verified the facts in question, instead of suppressing them through the artifices of measuring; and his observations on the frequency of egocentric speech in children when their activity is blocked and on the decrease of such speech during the period when inner speech begins to form are of very great interest. In the third place, he proposed a new hypothesis: that egocentric speech is the point of departure for the development of inner speech, which is found at a later stage of development, and that this interiorized language can serve both autistic ends and logical thinking. I find myself in complete agreement with these hypotheses.

On the other hand, what I think Vygotsky still failed to appreciate fully is egocentrism itself as the main obstacle to the co-ordination of viewpoints and to co-operation. Vygotsky reproaches me correctly for not emphasizing sufficiently from the start the functional aspect of these questions. Granted, but I did emphasize it later on. In *The Moral Judgment of the Child*, I studied children's group games (marbles, etc.) and noted that before the age of seven they do not know how to co-ordinate the rules during a game, so that each one plays for himself, and all win, without understanding that the point is competition. R. F. Nielsen, who has studied collaborative activities (building together, etc.) found *in the field of action itself* all the characteristics which I have emphasized with respect to speech. [R. F. Nielsen, *La Sociabilité Chez l'enfant*, Delachaux et Niestlé] Thus there exists a general phenomenon which it seems to me Vygotsky has neglected.

In brief, when Vygotsky concludes that the early function of language must be that of global communication and that later speech becomes differentiated into egocentric and communicative proper, I believe I agree with him. But when he maintains that these two linguistic forms are equally socialized and differ only in function, I cannot go along with him because the word socialization becomes ambiguous in this context: if an individual A mistakenly believes that an individual B

thinks the way A does, and if he does not manage to understand the difference between the two points of view, this is, to be sure, social behavior in the sense that there is contact between the two, but I call such behavior unadapted from the point of view of intellectual co-operation. This point of view is the only aspect of the problem which has concerned me but which does not seem to have interested Vygotsky.

In his excellent work on twins, R. Zazzo formulates the problem clearly. [*R. Zazzo, Les Jumeaux, le Couple et la Personne, Vol. II, p. 399*] According to him, the difficulty in the notion of egocentric speech arises from a confusion of two meanings which he feels I should have separated: (a) speech incapable of rational reciprocity, and (b) speech that is “not meant for others.” But the fact is that from the standpoint of intellectual co-operation, which alone interested me, these two amount to the same thing. As far as I know I have never spoken of speech “not meant for others”; this would have been misleading, for I have always recognized that the child thinks he is talking to others and is making himself understood. My view is simply that in egocentric speech the child talks for himself (in the sense in which a lecturer may speak “for himself” alone, even though he naturally intends his words for the audience). Zazzo, citing a passage of mine which is actually quite clear, answers me seriously that the child does not speak “for himself” but “according to himself,” (*selon lui*). . . . Granted! Let us replace “for himself” by “according to himself – in all of my writings. I still think this would change nothing in the only valid meaning of egocentrism: the lack of decentering, of the ability to shift mental perspective, in social relationships as well as in others. Moreover, I think that it is precisely co-operation with others (on the cognitive plane) that teaches us to speak “according” to others and not simply from our own point of view.

My comments on the second part of Vygotsky’s reflections on my work, in his Chapter 6, will be simpler, because I believe I am much more in agreement with him on these points and, mainly, because my later books, which he did not know, answer just the questions he raises, or most of them.

Spontaneous concepts, school learning, and scientific concepts

It was a real joy to me to discover from Vygotsky’s book the way in which he approves of my having distinguished, for study purposes, between spontaneous and nonspontaneous concepts: one could have feared that a psychologist intent on the problems of school learning much more than we are might have tended to underestimate the part of the continuous structuring processes in the child’s developing mental activity. It is true that when Vygotsky later charges me with having overstressed this distinction, I said to myself at first that he was taking away

from me what he had just granted. But when he states his criticism more explicitly, saying that nonspontaneous concepts, too, receive an “imprint” of the child’s mentality in the process of their acquisition and that an “interaction” of spontaneous and learned concepts must therefore be admitted, I once more felt in complete accord with him. Vygotsky in fact misunderstands me when he thinks that from my point of view the child’s spontaneous thought must be known by educators only as an enemy must be known to be fought successfully. In all of my pedagogical writings, old [*Encyclopédie française*, article *Éducation nouvelle*.] or recent, [*Le Droit à l'Éducation* dans la collection *des Droits de l'homme*, UNESCO] I have, on the contrary, insisted that formal education could gain a great deal, much more than ordinary methods do at present, from a systematic utilization of the child’s spontaneous mental development.

But instead of discussing in the abstract these few (though essential) points, let us start with those that seem to me to reveal our fundamental agreement. When Vygotsky concluded from his reflections on my earliest books that the essential task of child psychology was to study the formation of scientific concepts in following step by step the process unfolding under our eyes, he had no inkling that such was exactly my program. Before my first books appeared, I already had the manuscript text, written in 1920, of a study I had made of the child’s construction of numerical correspondences. This, then, was my project, for which my works on language and thought, on judgment and reasoning, on the child’s conception of the world, etc., were to serve as no more than an introduction. In collaboration with A. Szeminska and especially B. Inhelder, I later published a series of studies dealing with the development of the concepts of number, of physical quantity, of motion, speed, and time, of space, of chance, of the induction of physical laws, and of the logical structures of classes, relations, and propositions – in brief, with most of the basic scientific concepts.

Let us see what these findings disclose about the relationship between learning and development, since it is on this question that Vygotsky believes he is in disagreement with me, though actually he differs with me only partly, and not in the sense he imagines but rather in the opposite sense.

For a specific example, let us take the teaching of geometry. In Geneva, in France, and elsewhere it presents three peculiarities: (1) it begins late, usually at about the age of eleven, unlike arithmetic, which is taught from the age of seven; (2) from the outset it is specifically geometrical or even metrical without first going through a qualitative phase in which spatial operation would be reduced to logical operations, applied to a continuum; (3) it follows the historical order of discovery – Euclidian geometry is taught first, projective geometry much later, and topology only at the end, at the university. Yet it is well known that modern theoretical geometry takes

its departure from topological structures, from which by parallel methods both projective structures and Euclidian structures can be derived. Moreover, it is known that theoretical geometry is based on logic, and finally that there is an increasingly close connection between geometrical considerations and algebraic or numerical ones. If, as Vygotsky proposes, we examine the development of geometrical operations in children, we find that it takes a course much closer to the spirit of theoretical geometry than to that of traditional academic instruction: (i) the child constructs his spatial operations at the same time as his numerical ones, with a close interaction between them (there is in particular a remarkable parallelism between the construction of number and of measures of continuous quantity) ; (2) the child's first geometrical operations are essentially qualitative and entirely parallel to his logical operations (ordering, class inclusion, etc.); (3) the first geometrical structures the child discovers are essentially topological in nature, and it is from these that he builds up, but in a parallel fashion, the elementary projective and Euclidian structures.

From such examples, which could be multiplied, it becomes easy to answer Vygotsky's comment. In the first place, he reproaches me for viewing school learning as not essentially related to the child's spontaneous development. Yet it should be clear that to my mind it is not the child that should be blamed for the eventual conflicts, but the school, unaware as it is of the use it could make of the child's spontaneous development, which it should reinforce by adequate methods instead of inhibiting it as it often does. In the second place – and this is Vygotsky's main error in his interpretation of my work – he believes that according to my theory adult thought, after various compromises, gradually “supplants” child thought, through some sort of “mechanical abolition” of the latter. Actually, today I am more often blamed for interpreting spontaneous development as tending of its own toward the logico-mathematical structures of the adult as its predetermined ideal!

All this raises at least two problems, which Vygotsky formulates, but in the solution of which we differ somewhat. The first concerns the “interaction of spontaneous and nonspontaneous concepts.” This interaction is more complex than Vygotsky believes. In some cases, what is transmitted by instruction is well assimilated by the child because it represents in fact an extension of some spontaneous constructions of his own. In such cases, his development is accelerated. But in other cases, the gifts of instruction are presented too soon or too late, or in a manner that precludes assimilation because it does not fit in with the child's spontaneous constructions. Then the child's development is impeded, or even deflected into barrenness, as so often happens in the teaching of the exact sciences. Therefore I do not believe, as Vygotsky seems to do, that new concepts, even at school level, are always acquired through adult didactic intervention. This may occur, but there is a much more

productive form of instruction: the so-called “active” schools endeavor to create situations that, while not “spontaneous” in themselves, evoke spontaneous elaboration on the part of the child, if one manages both to spark his interest and to present the problem in such a way that it corresponds to the structures he had already formed himself.

The second problem, which is really an extension of the first on a more general level, is the relation between spontaneous concepts and scientific notions as such. In Vygotsky’s system, the “key” to this problem is that “scientific and spontaneous concepts start from different points but eventually meet.” On this point we are in complete accord, if he means that a true meeting takes place between the sociogenesis of scientific notions (in the history of science and in the transmission of knowledge from one generation to the next) and the psychogenesis of “spontaneous” structures (influenced, to be sure, by interaction with the social, familial, scholastic, etc., milieu), and not simply that psychogenesis is entirely determined by the historical and the ambient culture. I think that in putting it thus I am not making Vygotsky say more than he did, since he admits the part of spontaneity in development. It remains to determine wherein that part consists.

Operation and generalization

It is on this question of the nature of spontaneous activities that there still remains, perhaps, some divergence between Vygotsky and myself, but this difference is merely an extension of the one we noted concerning egocentrism and the role of decentering in the progress of mental development.

With respect to time lag in the emergence of conscious awareness we are pretty much in agreement, except that Vygotsky does not believe that lack of awareness is a residue of egocentrism. Let us look at the solution he proposes: (1) the late development of awareness must be simply the result of the well-known “law” according to which awareness and control appear only at the end point of the development of a function; (2) awareness at first is limited to the results of actions and only later extends to the “how,” i.e., the operation itself. Both assertions are correct, but they merely state the facts without explaining them. The explanation begins when one understands that a subject whose perspective is determined by his action has no reason for becoming aware of anything except its results; decentering, on the other hand, i.e., shifting one’s focus and comparing one action with other possible ones, particularly with the actions of other people, leads to an awareness of “how” and to true operations.

This difference in perspective between a simple linear schema like Vygotsky's and a schema of decentering is even more evident in the question of the principal motor of intellectual development. It would seem that, according to Vygotsky (though of course I do not know the rest of his work), the principal factor is to be sought in the "generalization of perceptions," the process of generalization being sufficient in itself to bring mental operations into consciousness. We, on the other hand, in studying the spontaneous development of scientific notions, have come to view as the central factor the very process of constructing operations, which consists in interiorized actions becoming reversible and co-ordinating themselves into patterns of structures subject to well-defined laws. The progress of generalization is only the result of this elaboration of operational structures, and these structures derive not from perception but from the total action.

Vygotsky himself was close to such a solution when he held that syncretism, juxtaposition, insensibility to contradiction, and other characteristics of the developmental level which we call today *preoperational* (in preference to *prelogical*), were all due to the lack of a system; for the organization of systems is in fact the most essential achievement marking the child's transition to the level of logical reasoning. But these systems are not simply the product of generalization: they are multiple and differentiated operational structures, whose gradual elaboration by the child we have learned to follow step by step.

A small example of this difference in our points of view is provided by Vygotsky's comment on class inclusion. In reading it, one gets the impression that the child discovers inclusion by a combination of generalization and learning: in learning to use the words *rose* and then *flower*, he first juxtaposes them, but as soon as he makes the generalization "all roses are flowers" and discovers that the converse is not true, he realizes that the class of roses is included in the class of flowers. Having studied such problems at first hand, [Piaget and Szeminska, *The Child's Conception of Number*, Ch. VIII, and Infielder and Piaget, *La Genese des Operations logiques élémentaires*, Delachaux et Niestlé] we know how much more complex the question is. Even if he asserts that all roses are flowers and that not all flowers are roses, a child at first is unable to conclude that there are more flowers than roses. To achieve the inclusion, he has to organize an operational system such that A (roses) + A' (flowers other than roses) = B (flowers) and that $A = B - A'$, consequently $A < B$; the reversibility of this system is a prerequisite for inclusion.

I have not discussed in this commentary the question of socialization as a condition of intellectual development, although Vygotsky raises it several times. From my present point of view, my earlier formulations are less relevant because the consideration of the operations and of the decentering involved in the organization of operational structures makes the issue appear in a new light. All logical thought is

socialized because it implies the possibility of communication between individuals. But such interpersonal exchange proceeds through correspondences, reunions, intersections, and reciprocities, i.e., through operations. Thus there is identity between intra individual operations and the inter individual operations which constitute *co-operation* in the proper and quasi-etymological sense of the word. Actions, whether individual or interpersonal, are in essence co-ordinated and organized by the operational structures which are spontaneously constructed in the course of mental development.

Professor Piaget wrote these comments after reading in manuscript Chapter 2 and excerpts from Chapter 6 of Vygotsky's [*Thought and Language*](#); His comments were translated from the French by Dr. Anne Parsons; the translation was revised and edited by E. Hanfmann and G. Vakar; [THE M.I.T. PRESS](#). Massachusetts Institute of Technology, 1962.

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